ABSTRACT

The invention relates to methods of genotyping single nucleotide differences in a nucleic acid sample. More particularly, the invention provides methods of identifying the nucleotide at a polymorphic site or a group of polymorphic sites in a sample of genomic DNA. The method uses tagged primer extension in which a set of tag sequences correspond to the identity of the nucleotides at the polymorphic sites. Primer extension products are PCR amplified using a common set of tag-specific primers, the downstream primers bearing distinguishable labels. Following separation by size and/or charge, the detection of distinguishable label in a product of the anticipated size determines the identity of the nucleotide at the polymorphic site. The method is well-suited for the genotyping of multiple single-nucleotide differences in one series of reactions.